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U.S. DEPT. OF AGRICULTURE

UNITED STATES DEPARTMENT OF AGRICULTURE

Production and Marketing Administration

MINIMUM REQUIREMENTS

FOR

Facilities, Operating Procedure and Sanitation

IN

Official Plants Processing
and
Packaging Egg Products

March 1948

APPROVED MATERIALS OF CONSTRUCTION

	Stainless Steel	Monel metal	Aluminum	White metal	Bronze	Tin plate	Lithcote or plasticote	Glass lined	Galvanized iron	Forged steel	Pressed composition board	Porcelain tile	Hardwood (cypress)
Shell egg buckets	A	A	A	A		A			A				
Trays and racks	A	A	T			T							
Knives and separators	A	A											
Cups	A	A											
Liquid egg buckets	A	A	T										
Dump tank, churns, draw-off tanks and drums	A	A				T	T						
Low pressure pumps	A	A		T	T								
Strainers	A	A											
Surface, tubular, plate coolers	A	A				T							
Liquid egg lines	A	A											
Frozen egg crushers	A	A				T							
Holding tanks and vats	A	A				T	T	T					
Preheating untis	A	A				T	T	T					
High pressure pumps	A												
High pressure lines	A	A											
High pressure fittings	A	A								T			
Drying chambers	A	A				T	T		T		T	T	
Powder conveyors and packing equipment	A	A				T	T		T				
Sifter screens	A	A											
Fermentation tanks	A	A						A					A
Albumen drying pans, trays or belts	A	A	A			T							
Albumen scrapers	A	A											
Albumen curing racks	A	A				A		A					

Key: T-Temporarily acceptable due to nature of coating.

A-Acceptable

FACILITY REQUIREMENTS

I. General Plant

1. Location of the plant should be in an area free from strong, foul odors or excessively dust and/or smoke-laden air.
2. Premises shall be free from conditions which constitute a source of insects, rodents, vermin or odors.
3. Buildings:
 - a. Building shall be in good repair.
 - b. Doors and windows:
 1. Doors and windows that open to the outside shall be protected against the entrance of flies and other insects.
 2. Doors leading into rooms where edible product is processed or into toilet and dressing rooms shall be equipped with automatic closing devices.
 3. Windows that are opened and screen doors and windows leading into rooms where edible product is processed shall be equipped with approved filters.
 - c. Sewer drains shall be equipped with traps to prevent the discharge of foul odors.
 - d. Personnel facilities, including toilets, lavatories (lockers) and dressing rooms shall be adequate and meet state requirements for food processing plants. Toilet rooms shall not open directly into any rooms where edible product is processed or stored. Separate ventilation shall be provided for toilet rooms. Lavatories shall be provided with hot water. All toilet and lavatory facilities shall be connected to sewers.
 - e. Storage rooms shall be provided for personnel and plant supplies.

II. Shell Egg Storage

1. Shell egg storage, either on or off the premises, shall be sufficient to and capable of pre-cooling all shell eggs to meet the temperature requirements for liquid eggs at time of breaking.

2-FACILITY REQUIREMENTS

III. Candling Room

1. The room shall be adequately darkened and the equipment shall be arranged so as to permit frequent removal of inedible or loss eggs, excess packing material and trash.
2. The floor should be water-resistant composition and shall be constructed in a manner that will allow thorough cleansing.
3. Ventilation, preferably by means of an exhaust fan, shall provide for the rapid removal of objectionable odors.
4. Candling devices of an approved type shall be provided to enable candlers to detect inedible, dirty, checked eggs, and eggs other than hen eggs.
5. Suitable containers shall be provided for inedible eggs.
6. Suitable containers shall be provided for trash.

IV. Egg Washing Room

1. This operation shall be separate from the breaking, drying and sterilizing operations. It shall be well-lighted and floors shall be of water-proof composition and shall be constructed in a manner that will allow thorough cleansing. Ventilation, preferably by means of an exhaust fan, should provide for the removal of objectionable vapors and odors.
2. Suitable equipment, either hand or a mechanical egg washing unit, that has been approved by an authorized representative of the U. S. Department of Agriculture shall be provided.

V. Breaking Room

1. The room shall be well-lighted.
2. Ceiling and walls shall have a tile, enameled, painted or other water-resistant type-surface.
3. Floor shall be of water-proof composition and free from cracks or rough surfaces. Intersections with walls and curbing shall be impervious to water. Ample drainage shall be provided.

3-FACILITY REQUIREMENTS

4. Ventilation shall provide for:
 - a. Sufficient input of odorless filtered air to cause a positive pressure within the room.
 - b. Sufficient exhaust to cause a prompt and continuous removal of foreign odors.
 - c. Facilities to warm room air to suitable working temperature.
5. Lavatories, preferably equipped with foot or knee operated valves, an adequate supply of potable hot and cold water, paper towels and odorless soap or equivalent shall be provided.
6. Tables and receiving shelves shall be of approved metal construction and surfaces shall be smooth and without open seams to allow thorough cleansing.
7. Shell egg conveyors, if used:
 - a. Metallic flight or apron type shell egg conveyors shall be constructed so that they can be continuously rinsed or sprayed and dried while in operation.
 - b. Non-metallic belt type shell egg conveyors shall be of water-proof composition and constructed so that they can be continuously rinsed or sprayed and squeezed while in operation.
 - c. Overhead conveyors shall be installed so that they do not pass directly over liquid egg unless the liquid egg is adequately protected from contamination.
8. Trays equipped with racks, knives, cups, separators, spoons, buckets, dump tanks, churns, draw-off tanks, pumps and liquid egg lines, shall be of approved construction.
 - a. All liquid egg containers, including cups and buckets, shall be free from leaks and excessive dents, rust spots and seams which make cleaning difficult.
 - b. Frozen egg cans are not acceptable as liquid egg buckets.

4-FACILITY REQUIREMENTS

9. A metal top inspection table shall be provided for the examination of questionable liquid eggs. A suitable covered container shall be stationed near-by for receipt of rejected liquid eggs.
10. Strainers, settling tank, or centrifugal clarifiers of approved construction shall be provided for the effective removal of meat spots, shell particles, and foreign material unless specific approval is obtained for other mechanical devices.
 - a. Two-mesh gravity-type dump tank strainer for the removal of large shell particles.
 - b. Either a 12-mesh gravity-type, 16-mesh pressure-type strainer, centrifugal clarifier, or an approved settling tank, or a combination of any of these facilities.
 - c. When straining whole eggs or albumen, hashers may be used when followed by a centrifugal clarifier or preceded by a 12-mesh gravity, 16-mesh pressure strainer, or when the egg meat is passed through an approved settling tank.

NOTE: The mesh referred to in a, b, and c refers to the U.S. Bureau of Standards Specifications. Two-mesh has an opening of .375 inches; 12-mesh has an opening of .0661 inches; 16-mesh has an opening of .0469 inches with a permissible variation of plus or minus 3% when the strainers are made of woven wire cloth. The openings permitted in a perforated metal strainer are .4231, .0746, and .0529, respectively.

11. Separate churn or draw-off rooms shall meet the comparable requirements that are listed under Breaking Room.

12. Washing and Sterilizing Room

- a. The room should be a separate room, well-lighted, and of sufficient size to permit operators to properly wash and sterilize all equipment at the rate required by the size of operation.
- b. Ceiling and walls shall have a tile, enameled, painted or other water-resistant type surface.
- c. Floor shall be of water-proof composition and free from cracks or rough surfaces, and shall be adequately drained.

5-FACILITY REQUIREMENTS

- d. Ventilation shall provide for sufficient exhaust to cause a prompt and continuous removal of foreign odors and vapors.
- e. Service shelves shall be of metal construction and surfaces shall be smooth without open seams. The design shall be of such ridged or open construction as to permit equipment stored thereon to drain and aerate.
- f. An adequate supply of potable hot and cold water shall be provided.
- g. A three-section metal tank or its equivalent shall be provided for washing, rinsing and sterilizing operations; however, a four-section tank is recommended to allow rinsing of equipment prior to washing.
- h. Sanitary drainage racks, capable of holding, without nesting, all breaking trays, racks, knives, cups and liquid egg pails shall be provided. The design shall be of such ridged or open construction as to permit equipment stored thereon to drain and aerate.
- i. Test kits shall be provided for testing strength of bactericidal solutions.
- j. Separate facilities shall be provided for washing, rinsing and sterilizing shell egg containers and leaker trays.

VI. Liquid Egg Cooling

- 1. Liquid egg cooling units shall be of approved construction and shall be sufficient and capable of cooling all liquid eggs to meet the temperature requirements for liquid eggs prior to drying or freezing.
- 2. Surface type coolers shall be fitted with cover unless located in a separate room under sanitary conditions.

VII. Liquid Egg Holding

- 1. All tanks, vats, drums or cans used for holding liquid eggs shall be of approved construction, fitted with covers and located in rooms maintained in a sanitary condition.
- 2. Liquid egg holding tanks or vats shall be equipped with an agitator.

6-FACILITY REQUIREMENTS

3. Inlets to holding tanks or vats shall be of no-foam construction.
4. Gaskets, if used, shall be of a sanitary type.

VIII. Freezing Rooms

1. Freezing rooms, either on or off the premises, shall be sufficient and capable of freezing all liquid egg products in accordance with the freezing requirements as set forth under operating requirements.
2. Slats or floor racks of not less than 1 inch in thickness shall be provided.
3. Fans shall be provided to guarantee adequate air circulation.

IX. Defrosting

1. A frozen egg crusher and defrosting tanks or vats of approved construction shall be provided to speed the defrosting of frozen eggs.
2. Service tables shall be of approved metal construction and surfaces shall be smooth and without open seams to allow thorough cleansing.
3. Squeegees shall be provided for removing adhering egg meat from containers.

X. Drying Plants

1. Spray Process - Drying Units.
 - a. Shall be continuous discharge types.
 - b. Shall be approved construction and materials.
 1. Construction shall allow for thorough cleaning.
 2. Surfaces shall be smooth and without open seams.
 - c. Shall be equipped with approved air intake filters.
 - d. Shall be equipped with intake and exhaust thermometers.
 - e. Air shall be drawn from sources free from foul odors or excessive dust and dirt.

7-FACILITY REQUIREMENTS

- f. Indirect heat or the use of an approved premixing device or other approved device for securing complete combustion on direct-fired gas units shall be required. Premix type burner, if used, shall be equipped with approved air filters at blower intake.
- g. High pressure pump heads and lines shall be of stainless steel construction and construction shall allow for thorough cleansing.
- h. Preheating units, if used, shall be of stainless steel construction and shall be capable of heating liquid eggs to a temperature of not less than 135° F.
- i. Powder conveying equipment shall be of approved construction and construction shall allow for thorough cleansing.
- j. Sifters shall be of approved construction and sifting screens shall be no coarser than the opening size specified for No. 16 mesh (U.S. Bureau of Standards). Sifters must be so constructed that accumulations of large particles or lumps of dried egg can be easily removed from sifter screens at hourly intervals or can be discharged continuously while the sifter is in operation.
- k. Powder cooling equipment shall be provided and capable of cooling all powder to a temperature requirement for dried egg powder of 85° or less at time of packaging.

2. Flake Process - Drying Units:

- a. Shall be constructed in a manner which will allow thorough cleansing and equipped with approved intake filters and intake thermometers.
- b. Intake air source shall be free from excessive dust or dirt.
- c. Premix type burners, if used, shall be equipped with approved air filters at blower intake.
- d. Fermentation tanks, drying pans, trays or belts, scrapers and curing racks, if used, shall be constructed of approved materials and in a manner which will permit thorough cleansing.

8-FACILITY REQUIREMENTS

- e. Equipment used for pulverizing pan dried albumen, shall be constructed of approved materials and in a manner which will permit thorough cleansing.
- f. Sifting screens shall be constructed of approved materials, in a manner which will permit thorough cleansing and in accordance with the specifications for whichever type of albumen it is desired to produce.

3. Drying Rooms and Packaging Room (on or off premises):

- a. The room shall be well-lighted.
- b. Ceilings and walls shall have a tile, enameled, painted or other water-resistant type surface.
- c. Floor should be of water-proof composition and free from cracks or rough surfaces which form pockets for accumulation of water or dirt. Intersections with walls shall be impervious to water. Ample drainage shall be provided.
- d. All packaging equipment and accessories which come into contact with the dried product shall be of approved construction. Service tables shall be of approved metal construction. All metal surfaces shall be smooth and without open seams to permit thorough cleansing.
- e. Storage racks or cabinets shall be provided for the storing of drying room and packaging room accessories and tools.

XI. Dried Egg Storage

- 1. Dried egg storage, either on or off the premises should be sufficient and capable of maintaining atmospheric temperatures in accordance with recommended operating requirements.

I. General Plant

1. Premises shall be kept free from refuse, rubbish, waste materials and other materials not needed for immediate operations, and any conditions such as puddles of water and filthy refuse containers which may constitute a source of odors or a harbor for insects and rodents.
2. Buildings shall be kept free from refuse, rubbish, waste materials and other materials not currently needed and any conditions which may constitute a source of odors or harbor insects and rodents.
 - a. Doors and windows which are opened frequently shall be kept screened against the entrance of flies and other insects, but if opening into rooms where edible product is exposed, they shall be provided with approved filters. The size and number of openings shall be kept to a minimum.
 - b. Sewer drains must be kept open.
 - c. All odds and ends and seasonal tools and equipment which are not currently used, shall not be allowed to remain in the rooms where edible products are processed or stored.
 - d. Toilets and dressing rooms shall be kept clean and adequately ventilated to eliminate odors and kept adequately supplied with soap, towels, and tissues.
 - e. If the breaking and drying operations are conducted as a part of a produce house or similar establishment, all trash, manure and filth shall be removed from such establishments at least daily. All refuse containers shall be washed and disinfected daily.
3. Personal Health
 - a. No persons afflicted with any infectious, contagious or communicable disease, or who is a carrier of such disease, shall be permitted to come in contact with eggs in any form or with equipment used to process such eggs.
 - b. Each plant employee should have thorough medical examination. New employees should not work more than one week without medical examination. These requirements shall not excuse failure to comply with applicable State laws.

10-OPERATING REQUIREMENTS

- c. All workers coming into contact with liquid or dried eggs, containers or equipment, shall wear clean uniforms.
- d. All plant personnel shall wash their hands before beginning work, and upon returning to work after leaving the work rooms.
- e. Expectoration, or other unsanitary practices shall not be permitted and should be reported to the management immediately.
- f. Use of tobacco in any form by workers coming in contact with the egg products shall not be permitted while on duty.
- g. Hair nets or caps shall be properly worn by all employed in breaking and packaging rooms.

II. Shell Egg Storage

- 1. Shell egg storage rooms shall be held at temperatures necessary to meet temperature requirements for liquid egg at time of breaking.
- 2. Compliance with temperature requirements applying to shell eggs shall be considered as satisfactory only if all units meet the requirements.
- 3. Shell egg storage rooms shall be kept clean and free from objectionable foreign odors.
- 4. Shell egg storage should be kept painted or white-washed and free from mold growth.

III. Candling Room

- 1. Candling rooms shall be kept clean, free from cobwebs, dust, objectionable odors and excess packing material.
- 2. Candling room floors and benches shall be thoroughly cleansed daily.
- 3. Trash and inedible egg containers shall be removed from candling room frequently and shall be washed or rinsed after each use and shall be washed, rinsed and disinfected at the end of each shift.

11-OPERATING REQUIREMENTS

4. Duck, Turkey, guinea and goose eggs shall be removed as they may not be broken for drying or freezing purposes.
5. Shell eggs received in cases having strong odors such as kerosene, gasoline and other odors of a volatile nature, shall be candled and broken separately to determine their acceptability for egg meat purposes.
6. Each individual egg shall be candled in a manner approved by an authorized representative of the U. S. Department of Agriculture and shall be classified as follows:
 - a. All loss or inedible eggs including black, white or mixed rots, green or bloody whites, stuck yolks, moldy eggs, large blood or meat spots, developed embryos at or beyond the blood ring stage, and any other eggs which are filthy or decomposed, shall be placed in a separate container and denatured.
 - b. Clean checks which are liable to be smashed in the shell egg containers shall be placed into trays (not more than 36 eggs per tray) and be transferred promptly to the breaking room to be broken out by specially trained personnel.
 - c. All sound shell eggs with adhering dirt shall be placed in separate containers.
 1. Such eggs shall be washed, rinsed and sterilized in a manner approved by authorized U.S.D.A. representatives.
 2. Washed eggs shall be dried and full candled prior to breaking to remove inedibles, checks and leakers.
 3. Dirty eggs shall not be washed in breaking or sterilizing rooms or any room where edible product is processed.
 4. Washed eggs shall be broken promptly after drying.
 5. Washing of stained eggs is not required.
 - d. All edible eggs shall be carefully placed on conveyors or in buckets in a manner which will prevent unnecessary breakage and shall be transferred promptly to the breaking room.
 - e. Eggs shall be handled in a manner to minimize sweating prior to breaking.

12-OPERATING REQUIREMENTS

- f. Egg products produced from leakers, dirty checks, checks resulting from washing operation, or unclean eggs with loose adhering dirt, or eggs other than from the domestic chicken hen when judged to be fit for human food may be processed but not identified with the Department legend.

IV. Breaking Room

1. The breaking room shall be kept in a dust-free clean condition and free of flies, insects and rodents.
 - a. A positive pressure of odorless filtered air shall be maintained in the breaking room during operations. During cold weather, such air shall be heated.
 - b. An exhaust shall provide for the prompt and continuous removal of foreign odors.
 - c. Floor shall be kept clean and reasonably dry during breaking operations and free of egg meat and shells.
2. Shell egg containers coming into the breaking room shall be so handled that they do not pass directly over or come in contact with liquid egg, liquid egg containers, or drip trays.
3. Belt type shell egg conveyors shall be continuously rinsed or sprayed and squeegeed. Flight and apron type shell egg conveyors shall be continuously rinsed and dried. Rinse shall be continuous spray of cool water (clear) or a bactericidal bath which shall be changed every two hours.
4. All breaking room personnel shall wash their hands thoroughly with odorless soap (or equivalent) and water each time they enter the breaking room and just prior to receiving clean equipment after breaking an inedible egg. Perfumes and nail polish shall not be used by breakers.
5. Paper towels or tissues shall be used at breaking tables but shall not be re-used; cloth towels shall not be permitted.
6. Breakers shall take a complete set of clean cups, knives, racks, trays and spoons, when starting work and after recess and lunch periods.
7. Not more than three eggs shall be broken into one cup; if cups are small not more than two eggs shall be broken into each cup. Cups shall not be filled to over-flowing.

13-OPERATING REQUIREMENTS

8. Each cup of egg meat shall be carefully examined for odor and appearance before it is emptied into the egg meat bucket, or each egg shell shall be carefully examined for odor and the egg meat for appearance before it is emptied into the bucket. All egg meat shall be re-examined by a limited licensed inspector before being emptied into the tank or churn.
9. Shell particles and other foreign material accidentally falling into the cup shall be removed with the use of a clean spoon. Breakers shall keep their fingers out of cups at all times.
10. Whenever an inedible egg is broken, the drip tray, rack, cups, knife and spoon shall be replaced with clean equipment except that only the cup need be exchanged when blood spots, bloody whites or blood rings are encountered.
11. Inedible and loss eggs are defined to include black rots, white rots, mixed rots, green whites, bloody whites, crusted yolks, stuck yolks, large blood and meat spots, developed embryos at or beyond the blood ring stage, moldy eggs, sour or musty eggs and any other filthy and decomposed eggs.
12. The contents of any cup containing one or more inedible and/or loss eggs shall be rejected and placed in an identified container.
13. Cups containing questionable eggs shall be re-examined by specially trained personnel for final rejection or acceptance.
14. All inedible egg liquid must be placed in a clearly identified container containing a denaturant. This container shall be kept adjacent to or in the sterilizing room or near the inspection table and shall be removed from breaking or sterilizing room at frequent intervals.
15. Contents of drip trays shall be emptied into a cup and smelled carefully before pouring into liquid egg bucket. Drip trays shall be emptied at least once for each fifteen dozen eggs or the equivalent thereof.
16. Liquid egg white recovered through the use of Irish Sucker Systems shall not be incorporated into Department-identified products unless such units have written approval.

14-OPERATING REQUIREMENTS

17. Liquid eggs recovered from shell egg containers must be discarded as inedible.
18. If eggs as described in Section III, Paragraph 6, f are broken to produce substandard liquid they shall be broken at a separate table and the product properly identified by the firm.
19. All liquid egg containers must be kept off the floor at all times.
20. Liquid egg containers shall not pass through the candling room.
21. Test kits shall be used to determine the strength of bactericidal solutions.
22. The person detailed to rinse or flush dirty utensils shall not handle sterilized equipment until he has washed his hands.
23. All leaker trays shall be washed and sterilized before returning to the candling room.
24. Shell egg containers shall be washed whenever dirty and washed, rinsed and sterilized at the end of each shift and shall be drained before re-using.
25. Belt, type shell egg conveyors shall be washed, rinsed and sterilized at the end of the shift.
26. Cups, knives, racks, separators, trays, spoons and liquid egg pails shall be washed, rinsed and sterilized at least every two hours in rotation. At the end of the shift this equipment shall be washed and rinsed and immediately prior to use it shall be immersed in a bactericidal solution.
27. Sterilized utensils shall be drained on drain racks and shall not be nested.
28. Dump tanks, churns, draw-off tanks, pumps, liquid egg lines and surface, tubular, or plate coolers, shall be flushed at the lunch period and dismantled, washed, rinsed and sterilized as soon as possible after each shift.
 - a. Such equipment shall not be reassembled more than two hours prior to use.
 - b. Shall be flushed with a bactericidal solution for not less than one minute prior to placing in use.

15-OPERATING REQUIREMENTS

29. Strainers, clarifiers and other devices used for the removal of shell particles and other foreign materials shall be washed, rinsed and sterilized each time it is necessary to change or at least every two hours.
30. Breaking room processing equipment shall not be stored on the floor.
31. Metal frozen egg containers shall be washed, rinsed and sterilized prior to filling.
32. Liquid holding vats or tanks shall be thoroughly rinsed with cool water under pressure, washed and rinsed after each use and sterilized immediately prior to re-use.
33. Drums, cans and tank trucks used to hold or transport liquid eggs for drying or freezing, shall be washed, rinsed and sterilized after each use and sterilized just prior to use.
34. Tables shall be washed and scrubbed at the end of each shift, sprayed with a sterilizing solution, and rinsed or flushed with water under pressure.
35. Shell conveyors and shell containers shall be cleansed and sterilized daily.
36. Inedible liquid egg containers shall be washed, rinsed and sterilized after each use.

V. Liquid Cooling

1. Liquid egg storage rooms including surface cooler and holding tank room shall be kept clean, free from foreign odors and condensation.
2. All shell eggs shall be precooled to a temperature which will produce liquid eggs at less than 70° F. at time of breaking.
3. All liquid whole egg and plain yolks shall be cooled to a temperature of less than 45° F. within one hour after breaking and held at that temperature or less until frozen, dried or delivered to consumer. If held more than eight hours they shall be reduced to a temperature of less than 40° F. and held at that temperature or less until frozen, dried or delivered to consumer. Liquid egg intended for drying may not be held in a liquid state in excess of 20 hours. In the event of a mechanical break-down, liquid may be held for an extended period if the temperature of the liquid is reduced to 35 F.

16-OPERATING REQUIREMENTS

- If adequate liquid cooling facilities are not provided, shell egg temperature shall be such that the above liquid egg temperatures will be produced at time of breaking.
4. Liquid whites that are to be frozen and yolk blends such as salted, sugared, etc., shall be produced at temperatures not exceeding 70° F. and shall be placed in sharp freezing facilities as quickly as possible but within one hour after breaking. If handled otherwise, the temperature requirements of paragraphs 2 and 3 shall apply.
 5. Compliance with temperature requirements applying to liquid egg shall be considered as satisfactory only if all portions of the products meet the requirements.
 6. Surface coolers must be kept covered at all times unless located in a separate room under sanitary conditions.
 7. Agitators shall be operated in a manner which will minimize the production of foam.
 8. When ice is used as an emergency refrigerant, by being placed directly into the egg meat, the source of the ice must be certified by the local or state board of health. Such liquid may not be frozen and identified with the department legend. All such liquid shall be dried. All ice shall be handled in a sanitary manner.

VI. Freezing

1. Freezing rooms shall be kept clean and free from foreign odors.
2. Freezing rooms shall be maintained at temperatures that will produce a solidly frozen and/or satisfactory condition within 72 hours after product has been placed in freezing facilities.
3. Packages shall be stacked so as to permit circulation of air around each individual container and shall not be stacked directly on the floor but on slats or floor racks of not less than one inch in thickness.
4. The outside of liquid egg containers shall be clean and free from evidence of liquid egg.
5. Frozen egg not identified by the Department legend shall be stored in a specifically designated and segregated section of the storage room and each package shall be marked or identified properly.

VII. Defrosting

1. Frozen whole eggs and yolks shall be turned into a liquid state by mechanical means and in a sanitary manner as quickly as possible after the defrosting process has begun.
 - a. The frozen product may be tempered or partially defrosted not to exceed 48 hours at room temperatures not higher than 40°F. or not to exceed 24 hours at room temperatures above 40°F. providing that no portion of the liquid produced shall exceed 60°F.
 - b. The liquid product resulting from the defrosting process shall be reduced to 45°F. or less and held at that temperature. This liquid shall not be held more than 16 hours prior to drying.
2. Frozen whites used in the production of dried albumen may be defrosted at room temperature.
3. Each container of frozen eggs shall be checked for condition and odor just prior to being emptied into the crusher or receiving tank.
 - a. Frozen eggs which have questionable or off odors (sour, musty, fermented or decomposed odors) shall not be incorporated in the liquid to be dried.
4. Sanitary methods shall be used in handling containers, extracting semi-frozen egg and in removing adhering egg liquid.
 - a. A rubber squeegee may be used to remove adhering liquid egg from the container.
 - b. Persons assigned to this work may not be assigned to other work to be done at the same time.
 - c. Other methods of removing this liquid egg must be approved by authorized representatives of the U. S. Department of Agriculture.
 - d. The pouring of water from one container to another to rinse out containers shall not be permitted.
 - e. Emptied cans shall not be stacked one on the other while waiting final removal of liquid.
 - f. Paper or fiber frozen egg packages shall not be immersed in water to speed defrosting.

18-OPERATING REQUIREMENTS

5. Crushers and other equipment used in defrosting operations shall be dismantled at the end of each shift and shall be rinsed, washed, rinsed and sterilized.

- a. Where crushers are used intermittently, they shall be flushed after each use and again before re-using.

- b. Floors and work tables shall be kept clean.

VIII. Spray Process Drying

1. The drying room shall be kept in a dust free, clean condition at all times and shall be free of flies, insects and rodents.

2. Preheating units, if used, shall produce a liquid egg temperature of not less than 135°F.

3. Liquid egg lines including high pressure pumps, low pressure pumps, homogenizers and pasteurizers shall be flushed after each days run, dismantle, washed and flushed thoroughly with plain water.

- a. Within two hours prior to resuming operations, equipment shall be reassembled and flushed with bactericidal solution for not less than one minute.

- b. Dryer should be started on water each day prior to drying liquid egg.

- c. Spray nozzles, orifices, cores or whizzers shall be washed, rinsed and sterilized immediately after being removed.

4. Definition of the product:

- a. Primary powder is that powder which is continuously removed from the primary or main drying chamber while the drying unit is in operation.

- b. Secondary powder is that powder which is removed continuously or at least at hourly intervals from the secondary chambers and/or bag collectors while the drying unit is in operation.

- c. Sweep-down powder is that powder which is recovered in the brush-down process from the primary or secondary chamber, bag collector and conveyors.

- d. Dust-house powder is that powder which accumulates in the dust house.

19-OPERATING REQUIREMENTS

5. Blending of the product.

- a. Powder shall be blended uniformly throughout the operation.
- b. Secondary-powder may be blended with primary powder either continuously or within one hour after its production.
- c. Sweep-down powder may be uniformly and continuously blended into the subsequent day's production unless obviously scorched or dirty.
- d. Dust-house powder may not be blended.
- e. There shall be no blending of low grade or off grade powder, screenings or rejected powder, other than that rejected for moisture not in excess of 7 percent into powder identified by the Department legend.

6.- All powder shall be sifted through a No. 16 mesh screen (U.S. Bureau of Standards) and such screens shall be replaced whenever torn.

7. Accumulations of large particles or lumps of dried eggs shall be removed from sifter screens continuously or at hourly intervals.
8. All powder shall be cooled to 85°F. or below (except a tolerance of 3°F. will be permitted) within one hour after being removed from the dryer.
9. Drying units shall be brushed down thoroughly daily and washed, rinsed and sterilized at least once each week. Bags from bag collectors shall be dry-cleaned or laundered not less than once each month.

IX. Flake Process Drying

1. The fermentation, drying, and curing rooms shall be kept in a dust-free clean condition and free of flies, insects and rodents.
2. Drying units, racks and trucks shall be kept in a clean and sanitary condition.
3. Fermentation tanks, drying pans, trays or belts if used, scrapers and curing racks if edible product comes into contact with rack, shall be kept in a clean condition, and should be washed, rinsed and sterilized after each use.

20-OPERATING REQUIREMENTS

4. Oils and waxes used in oiling drying pans or trays shall be of edible quality and applied by a spray process.
5. Equipment used for pulverizing or sifting dried albumen shall be kept in a clean condition.

X. Packaging Rooms (on or off the premises)

1. Packaging rooms shall be kept in a clean conditions free of flies, insects and rodents.
 - a. Package liners shall be inserted in a sanitary manner.
 - b. Equipment used in packaging dried eggs shall be kept clean at all times and whenever contaminated it shall be washed, rinsed and sterilized. When not in use scoops, brushes, tampers, etc., shall be stored in cabinets or on racks provided for this purpose.

XI. Dried Egg Storage

1. Dried egg storage space shall be kept dry, clean and free from foreign odors.
2. Spray process dried whole eggs and yolks shall be placed under refrigeration at or below 50°F. within 24 hours after manufacture, either in a warehouse or in a refrigerated car or truck.
 - a. In cases where the commodity is stored off the premises, an additional 24 hours will be allowed for Sundays or holidays, but will be permitted only when it is impossible to obtain storage facilities on these days.
 - b. Dried egg storage space should be maintained at an atmospheric temperature of 50°F. or less. Products not identified by the Department legend shall be stored in a specifically designated and segregated section of the storage room.

All such product shall be plainly marked and properly identified.

3. Flake process dried albumen (fermented) should be stored at room temperature.

WASHING AND STERILIZING REQUIREMENTS

The bactericidal solution referred to in the following requirements shall be:

A hypochlorite or other approved bactericidal solution, carrying a minimum original strength of 200 p.p.m. of available chlorine or equivalent. The solution shall be changed whenever the strength of this solution drops to 50 p.p.m. of available chlorine or equivalent.

I. Floors:

Shall be scrubbed with water containing washing compound, rinsed with clean water and squeegeed.

II. Trash Cans, Inedible Egg Containers, Shell Cans:

Shall be scrubbed with water containing washing compound, rinsed with clear water and sprayed or flushed with bactericidal solutions.

III. Candling Benches, Service Shelves, Breaking and Service Tables:

Shall be washed with water containing washing compound solution sprayed with bactericidal solution, and rinsed or flushed with clear water under pressure.

IV. Dirty Shell Eggs:

1. Shall be washed with water warmer than the egg and shall not be soaked.
2. Rinsed by being placed in wire baskets or equivalent and immersed in or sprayed with clear warm water.
3. Sterilized by immersing in a warm bactericidal solution for not less than two minutes.

Or: Washed by means of a mechanical egg washing machine which has been approved by an authorized representative of the U.S.D.A.

V. Bolt Egg Shell and Shell Egg Conveyor

Shall be flushed with clear cool water under pressure. Scrubbed with water containing washing compound, rinsed with clear water and sprayed with a bactericidal solution.

Worm Type Egg Shell Conveyor

Shall be flushed with clear water under pressure while in operation to remove adhering egg material and shells and sprayed with bactericidal solution.

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| VI. | Shell egg pails | Spoons | Spray Nozzles |
| | Leaker trays | Trays | (including orifices, Cores and Whizzers): |
| | Knives | Tray racks | |
| | Cups | Liquid egg pails | |
| | Separators | Albumen drying pans or trays and scrapers | |

Shall be washed in warm water containing washing compound, rinsed with cool or lukewarm clear water and sterilized by immersing in bactericidal solution for not less than one minute.

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| VII. | Low pressure pumps | Hashers | High Pressure |
| | liquid egg lines | Preheaters | lines: |
| | Homogenizers | High pressure pumps | |

Shall be flushed with cool water, dismantled, brushed with washing compound solution and rinsed with clear cool water. Within two hours prior to use equipment shall be reassembled and flushed with a bactericidal solution for not less than one minute.

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| VIII. | Dump tanks | Liquid egg cooling units | Liquid cans or drums |
| | Churns | Draw-off tanks | Tank trucks |
| | Clarifiers and | Holding tanks | Crushers |
| | strainers | Fermentation tanks | Albumen drying belts or racks: |

Shall be flushed with cool water under pressure, brushed with washing compound solution, rinsed with clear cool water and sprayed or flushed with a bactericidal solution just prior to use.

IX. Spray Process Drying Units:

Shall be washed with warm water containing the proper amount of any *suitable cleanser or washing compound, flushed or rinsed with cool water and sterilized by heating at 250° - 300° F. for approximately $\frac{1}{2}$ hour.

*Acid base cleaning compounds should be used for washing plastic-coated or lithcoated surfaces.